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The history of Singapore General Hospital (SGH) is closely intertwined with the development of medicine in Singapore. The first general hospital for British troops was established in Singapore in 1819, but it was only in 1821 that it began serving the general populace — marking the true beginnings of SGH. In celebration of SGH's bicentennial, *Singapore Health* presents snapshots of the changes in medicine and its various disciplines in the past 200 years.

We are nurses — and we are highly skilled professionals

Today's nurses look after patients, administer specialised treatments, teach nursing skills, undertake research, and organise large projects to improve care.

by Ms Amelia Gin, Deputy Director, Patient Engagement, Communications Department, Singapore General Hospital

Just as the first doctors landed in Singapore at the same time as Sir Stamford Raffles, so did nurses.

Those "first" nurses were recruited from local jails and were mostly men, as women in the 19th century did not visit hospitals. They gave birth and had ailments treated at home instead.

Even after women started visiting the hospitals, the people tending to them were mostly untrained, as the profession advanced slowly in the early years. The first trained nurses who started working in the General Hospital on 1 August 1885 were nuns, and it was only on 5 May 1900 that four trained nurses from the UK replaced them to mark the start of nursing as a profession in Singapore.

Nursing has come a long way since. Today's nurses are highly trained and skilled professionals who specialise not just in patient care, but in areas such as burn injuries, cancers and post-surgery care. They have clear career paths that allow them to work towards the top of their profession in care, research or education. Training is available at ITE College East and Nanyang Polytechnic's School of Health Sciences; the latter offers a nursing diploma. In recent years, many aspiring nurses have attained a first degree at various universities locally and abroad.

SGH has 38 Advanced Practice Nurses (APNs) and 332 Nurse Clinicians (NCs), including Nurse Educators. They are experts in their field, working alongside doctors and other healthcare professionals to provide complex nursing care. They take on

some clinical work in assessing and managing conditions, and administering treatments in their own clinics. They specialise in areas relating to pelvic floor conditions, post-vascular and orthopaedic surgery, post-stroke management, and breast cancer care.

Many stand shoulder to shoulder with medical professionals. Not only are they skilled nurses, they teach and mentor younger colleagues, and are involved in research.

Dr Lim Su Fee, a rehabilitation care APN and President's Nurse (2015), is a published researcher and lecturer. She started a new community nursing initiative with a large team of acute care-trained nurses to care for the elderly in Singapore's south-east region.

Other notable APNs and published researchers include Dr Juriyah Yatim, who runs SGH's Pelvic Floor Disorder Service; and Dr Aline Teh who runs the Pre-Anaesthesia Evaluation Clinic, trains Master of Nursing students, and leads the APN internship programme.

Testament to SGH's professional nursing standards, the hospital boasts 13 President's Award for Nurses recipients since its inception in 2000. Ms Saraswathi Nagalingam, the first SGH nurse to receive the award in 2001, was also Singapore's first Breast Care Nurse Clinician in 1992. She is most respected for her work with breast cancer patients and for starting breast cancer support groups.

Increasingly, nurses are entering service armed with postgraduate degrees. Ms Ang Shin Yuh, a President's Award for Nurses recipient in 2019, won a



Photos: SGH



» (Clockwise from top left) Ms Sylvia Cheang, Director, Nursing (1984-2002); Ms Kwok Moon Hoe, Operating Theatre Manager (1996-2003); Mr Bernard Soo, Principal Nursing Officer (1981-1984); Ms Esther Monica Fan, Nurse Clinician, Nursing Innovation and Transformation; Ms Ti Sui Tsu, SGH Matron (1961-1970); Ms Jumaiah Jumari, Nurse Educator, Institute of Advanced Nursing; Mr Shashi Chandra Segaram, Nurse Clinician, Emergency Medicine; Ms Lim Kwee Neo, SGH Matron (1958-1961); and Ms Xu Yi, Senior Nurse Clinician (Community Nurse).

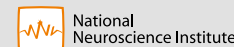
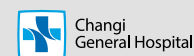
government scholarship to study nursing overseas. She later pursued postgraduate business studies in healthcare management. With an innovative spirit, she develops devices and improves techniques to better care for patients and improve the well-being of fellow nurses.

This is the last in this SGH200 column, but the celebrations can be followed at www.sgh.com.sg/sgh200 and on our social media platforms: Facebook (@SingaporeGeneralHospital), Instagram (@sghseen) and TikTok (@sghseen).

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» Prof Sng doing a simulation of the spinal anaesthesia procedure using uSINE™ technology.

AI-powered technology boosts accuracy during spinal anaesthesia

The development of the novel technology, led by KK Women's and Children's Hospital, can potentially reduce the risks of neuraxial anaesthesia used in many obstetrical and gynaecological procedures.

by Eveline Gan

Women going through a caesarean delivery usually undergo neuraxial anaesthesia, which is a type of regional anaesthetic procedure that numbs the lower part of their body. It blocks sensations of pain but allows mothers to be awake during their baby's birth.

At KK Women's and Children's Hospital (KKH), about 2,500 spinal anaesthesia procedures have been performed on women undergoing caesarean sections annually, in the last three years.

Spinal anaesthesia involves inserting a needle at a specific point in the lower back, before injecting the anaesthetic drug into the fluid space surrounding the spinal canal.

It is one form of neuraxial anaesthesia performed for surgical procedures, such as caesarean sections, labour epidural analgesia, and some gynaecological surgeries.

Worldwide, we know that neuraxial anaesthesia is used in many obstetrical and gynaecological procedures. As the largest maternity hospital in Singapore, we want to improve the care for our patients in this area, and uSINE™ will enable this.

Associate Professor Sng Ban Leong
Head and Senior Consultant, Department of Women's Anaesthesia, KK Women's and Children's Hospital

While spinal anaesthesia is usually safe, precision is critical as even a slight inaccuracy during the needle insertion carries a potential risk of complications.

Difficulty in needle placement can lead to higher rate of

complications, such as multiple attempts needed to locate the landmark, failed anaesthesia, or neurological injury. Other complications include abnormal sensations to the skin, such as tingling or prickling, due to nerve





»» uSINE™ is an AI-powered software programme integrated with an ultrasound machine that guides doctors to identify the correct space for needle insertion.

Different types of neuraxial anaesthesia for childbirth

The type of pain relief used during childbirth depends on the health and well-being of both mother and child. Neuraxial anaesthesia procedures are typically carried out for caesarean sections or during labour, whereby the body is numbed from the waist down and the patient is awake. It is advisable to discuss with the doctor on the most suitable pain relief option.

- For an epidural, a catheter is inserted through a needle in the lower back, and left in place so that anaesthesia medication can be delivered through the tube as and when needed.
- During a spinal anaesthesia, anaesthesia medication is injected into the spinal fluid through a needle inserted in the lower back, before the needle is removed. There is fast onset of pain relief due to the anaesthesia medication.



irritation and blood collection within the tissues in the spine.

Associate Professor Sng Ban Leong, Head and Senior Consultant, Department of Women's Anaesthesia, KKH, said that the conventional method of manually identifying the spot to insert the spinal needle requires good knowledge of the anatomy and skills due to its complexity.

"It becomes more challenging in patients who are obese, have an abnormal spine, or have had spine surgery, as patients in these groups would have surface landmarks that are difficult to locate or have no palpable landmarks. At times, repositioning will be required before another needle insertion attempt can be made. Multiple needle insertions increase the risk of the procedure," he said.

However, a new artificial intelligence (AI)-powered technology developed by KKH in collaboration with the National University of Singapore (NUS) is set to change that.

Called uSINE™, it is the world's first software that uses ultrasound imaging and AI to automatically pinpoint the exact anatomical landmark on the patient's spine in which the needle should be inserted during an ultrasound scan.

During the ultrasound scan, the proprietary machine learning algorithm alerts the anaesthetist in real-time when the right spot and angle are identified. Precise needle insertion at first try will enhance patient care by improving the quality of the anaesthesia, and reducing pain and risk of potential complications.

High success rate

A clinical study led by KKH evaluating the first-attempt success rate of spinal anaesthesia procedure using uSINE™ has yielded promising results. Between May 2016 and May 2017, 100 women undergoing spinal anaesthesia for surgical procedures at KKH were evaluated. Currently, there is an ongoing clinical trial to evaluate its use in obese patients who have more difficult spinal landmarks.

With uSINE™, the success rate for needle insertion at first attempt during spinal anaesthesia was high at 92 per cent. This is significantly higher than the

global first-attempt success rate of 50 to 60 per cent.

Prof Sng, who is also the study's senior author, said that uSINE™ could potentially be used in other obstetrical and gynaecological procedures, and not just for caesarean sections.

These include epidural anaesthesia for natural deliveries, which is another common neuraxial anaesthesia procedure. The needle insertion point for an epidural is similar to that of a spinal anaesthesia.

"Neuraxial anaesthesia has its advantages over general anaesthesia, as there is a reduction of drug exposure in the blood stream, less risk of sedation and low breathing in the mother and baby, as well as participation of the mother in the childbirth and delivery process," he said.

"Worldwide, we know that neuraxial anaesthesia is used in many obstetrical and gynaecological procedures. As the largest maternity hospital in Singapore, we want to improve the care for our patients in this area, and uSINE™ will enable this," Prof Sng said.

"It not only reduces the anxiety, discomfort and pain caused by multiple needle insertions, but also the complications associated with them. Furthermore, this novel AI-powered system may also play a role in training doctors specialising in anaesthesia to better identify correct spinal landmarks."

How uSINE™ works

During the procedure, the patient sits and bends forward, with the lower back exposed. The doctor places the ultrasound probe at the base of the spine, also called the sacrum.

The AI-powered software programme, which is integrated with the ultrasound machine, guides the doctor to identify the correct space for the needle insertion. It only gives instructions when all the anatomical landmarks are identified for the doctor to insert the needle to deliver the spinal anaesthesia.

The team is looking at enhancing the AI-powered system and investigating the use of the system in high-risk patients. Additional stages of research, trial and approval are required before uSINE™ can be accepted as a standard part of care during neuraxial anaesthesia.



»»» A veritable Aladdin's treasure trove was laid out in the Museum for cleaning and polishing, before deciding which ones will be used for display.

Welcoming visitors to 200 years of medical history

Surgical and other instruments have been lovingly restored and are now on display at the newly opened SGH Museum.

by Dang Hui Ling

After months of planning and renovation, the Singapore General Hospital (SGH) Museum is open to visitors again at the Bowyer Block. It has a rich history and is part of an ensemble of buildings built in 1926 that marks the start of the modern SGH. Since then, it has undergone a sea change that brings it into the 21st century.

Preparation for the revamped SGH Museum involved a curation of the Museum's treasures by Ms Jean Wee, Director, Preservation of Sites and Monuments, National Heritage Board; and Ms Amelia Gin, Deputy Director, Communications Department and Museum, SGH.

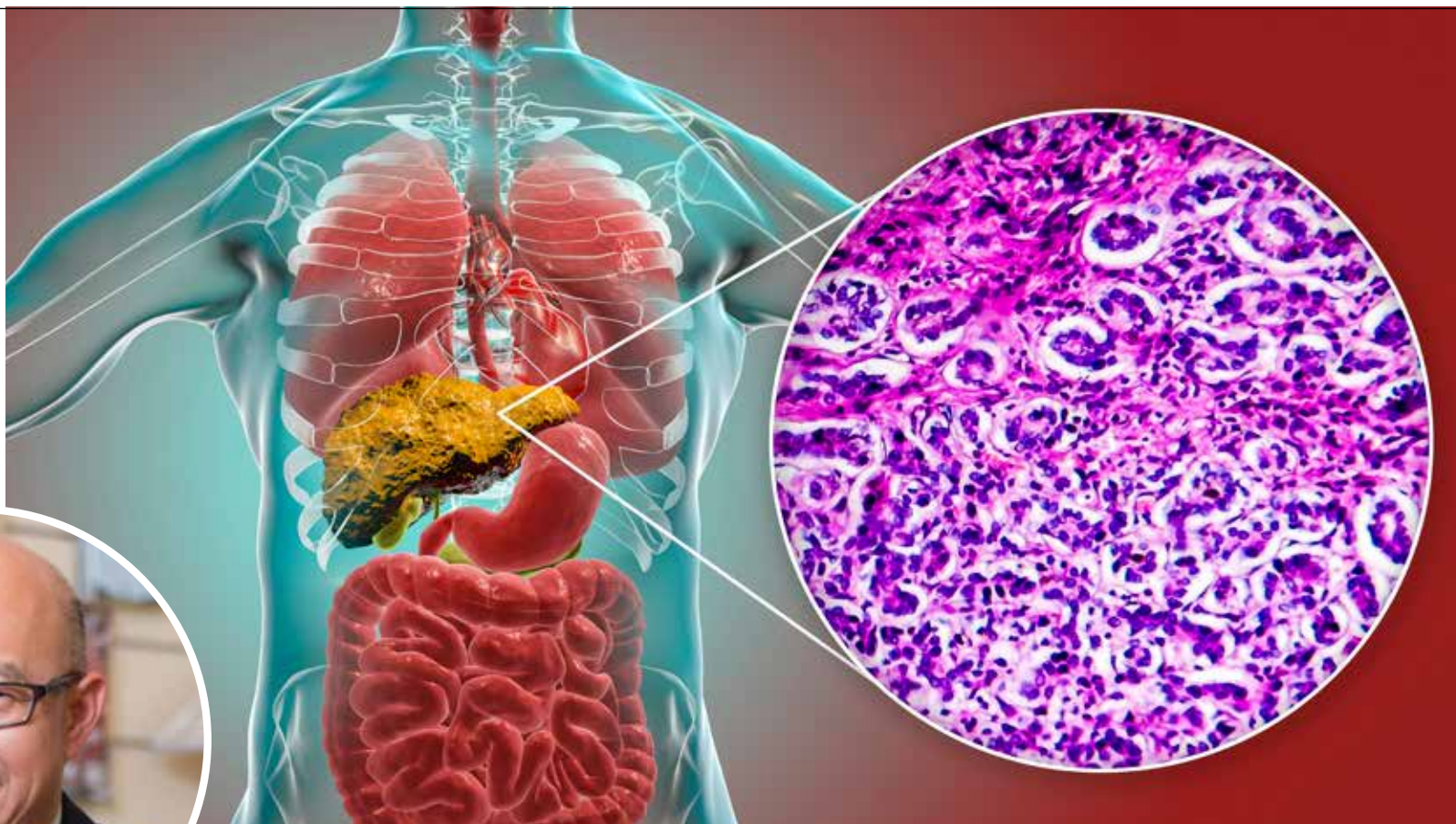
"We were involved in choosing the most interesting artefacts to display, looking into how they were cleaned, and so on," said Ms Gin. As the former head of SGH's operating theatres, she knows the surgical equipment like the back of her hands.

"Many instruments were tarnished or discoloured due to oxidation, and some had rust and stains. Special polish powder and lubricants were used to restore the equipment's shine and functionality. After polishing, details like the instruments' manufacturers, catalogue numbers and countries of origin became evident, which enabled further research into their usage and period of use," Ms Gin added.



»»» Surgical instruments, collected from donations and archives, include scalpel handles, fine-tip bladed scalpels used in delicate eye surgery, needle holders for suturing, and various forceps, clamps and scissors. Although few of these are used today, having been replaced by new and more effective instruments, many were used in past groundbreaking procedures. For instance, in conventional open abdominal surgery, a self-retaining retractor (above) was used to keep the abdomen open after a long incision has been made for the surgeon to perform procedures involving the stomach, small or large intestines, ovaries or uterus. Today, surgeries are mostly keyhole or minimally invasive, and use small cuts, resulting in shorter and less complicated recoveries.

»» Professor Pierce Chow is the Principal Investigator of a landmark study on improving early diagnosis for people at high risk of primary liver cancer.



Why detecting liver cancer early is important

This research could have a profound impact on those at high risk of the illness around the world.

by Suki Lor

Did you know?

- Each year, approximately 500 people are diagnosed with HCC in Singapore. The most important risk factors for HCC are liver cirrhosis (hardening of the liver), chronic viral hepatitis, alcoholic hepatitis, non-alcoholic fatty liver disease, and non-alcoholic steatohepatitis.
- HCC is one of the fastest-growing cancers, with a tumour doubling in size in about 200 days, therefore early detection can be life-saving.
- Treatment, such as a liver transplant, can be curative at an early stage.

A landmark study underway in Singapore will use cutting-edge science to look into improving early diagnosis for those at high risk of primary liver cancer, also known as hepatocellular carcinoma (HCC).

Only 20 per cent of cases of HCC in Singapore are diagnosed at an early stage, when cure is possible. "HCC is one of the fastest-growing cancers and early diagnosis is challenging. The liver is an internal organ not visible to the naked eye, and by the time HCC is symptomatic, it is usually at a later stage," said the study's Principal Investigator, Professor Pierce Chow, Senior Consultant, Department of Hepato-biliary and Transplant Surgery, Division of Surgery and Surgical Oncology, Singapore General Hospital (SGH) and National Cancer Centre Singapore (NCCS).

Led by NCCS, the ELEGANCE study (EarLy DETection of HCC: miRNA, microbiome and imaGing biomArkers in the evolution of chroNiC livEr Disease in a high-risk prospective cohort) targets to enrol 2,000 people at high risk of HCC by April 2022.

The study has three main aims, the first being to develop a better way to diagnose early-stage HCC through improved blood tests.

"We hope that the study will lead to a more accurate and convenient diagnostic that can even be administered at a family physician's clinic so that a higher proportion of patients who develop HCC will have it diagnosed at an early stage for better treatment outcomes," Prof Chow said.

Researchers will work together with Singapore biotechnology company MiRXES to develop a blood test to detect a group of microRNA (which are molecules released by cells to control the types and amounts of proteins they make) found in the blood when HCC develops. An earlier pilot study has shown that a panel of microRNA is significantly more effective than the current standard-of-care combination of ultrasound and a blood test for the biomarker alpha-fetoprotein carried out every six months to screen those at high risk of HCC.

The second aim of the study is to quantify a person's risk of developing liver cancer so that doctors can prioritise those who are at a higher risk. It will involve a non-invasive magnetic resonance imaging (MRI) scan that is safely done without the use of radiation or injection of a contrast.

Industry partner Perspectum will develop an artificial intelligence algorithm based on the data from the scans to predict a patient's risk of developing HCC and the progression of chronic liver disease.

The third goal of the ELEGANCE study is to identify how changes in metabolites in

the blood and bacteria species in stools are related to changes in the molecular biology of a person as he or she develops liver cancer. Stopping these molecular processes from developing may prevent HCC from developing in the first place, which will be a groundbreaking advancement in the field of medicine. The results could potentially have the biggest impact on society among the study's three aims.

This research is being carried out in collaboration with the Nanyang Technological University's Singapore Phenome Centre and the Asian Microbiome Library (AMiLi), and will involve understanding changes in metabolites (which are produced by cells during metabolism) in the blood, urine and bacteria in the patient's stools to assess the steps needed to be taken to prevent or delay chronic liver disease from deteriorating and prevent HCC from developing.

"We need to have a more definitive understanding of these processes so that we can prevent them from happening. Such prevention should not be painful for patients. It might just be a change in lifestyle or the need for certain food supplements to be taken, for example," said Prof Chow.

"Science provides hope. Taking part in this study does not only help participants, but society too. It gives hope to patients with liver disease that liver cancer can be detected earlier or prevented," he added.

The ELEGANCE study is a whole-of-nation effort involving six hospitals and eight polyclinics, which will recruit patients for the project, with support from the government and industry.

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Why is it important to use alcohol-based hand rub to prevent infections?

Alcohol in the hand rub remains the main active ingredient to eliminate the microorganisms. Besides its rapid killing action, the fast-drying time is also a main plus when it comes to hand sanitizing. Many non-alcohol hand rubs contain water, they dry more slowly on the hands. Without alcohol as the main antimicrobial agent, alcohol-free hand rub will need other active(s) as a substitute. Most substitutes (e.g., chlorhexidine, benzalkonium chloride etc.) are antimicrobial but with a much slower efficacy compared to alcohol. Alcohol-based hand rubs remain the much-preferred option for the majority in COVID-19 unless the user is allergic to alcohol, which is very rare. For this cohort maybe the best option is to wash their hands with a gentle soap to maintain hand hygiene.

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New online portal for SGH financial services

With the PFS Portal, patients and families no longer have to wait to pay their bills after clinic consultations or ward discharge.

Patients looking to pay their Singapore General Hospital (SGH) bills can now do so online at the hospital's new Patient Financial Services (PFS) Portal (www.sgh.com.sg/PFS).

Launched in June by SGH's PFS team, the Portal is a one-stop shop for everything relating to inpatient and outpatient bills. It enables patients to pay their bills online, enquire about their bills, or submit a MediSave Maternity Claim from the comfort of their home or on the go. It also includes information on using their MediSave and insurance.

According to Ms Ong Mei Ling, Deputy Director, PFS, SGH, the Portal is in line with Singapore's Smart Nation initiative and to keep our patients safe.

With the Portal, patients no longer have to wait in line to pay their bills, and can leave SGH right after they see their specialist or after discharge. The Business Office at SGH Block 4 Level 1 has

been converted into a 24-hour PFS Self-Service Lobby with iPads. Patients who are at SGH can use the PFS Self-Service Lobby for their billing matters. During office hours, Patient Service Ambassadors are on-site to help patients with queries.

Over-the-counter transactions and services previously provided by the Business Office have been discontinued. SGH has also stopped accepting cash payment; patients have to use the ePayment function on the iPads provided at the Self-Service Lobby.

"Ask BILLie" is a chatbot on the Portal for helping users with general bill enquiries and requests. For complex requests, SGH will respond within one to two working days.

SGH has been making efforts to limit and improve patients' time in the hospital. Patients who do not have to see their care team in person are encouraged to meet them online via video calls.

Eligible patients include those who are on periodic reviews, and do not need scans or other tests. Video calls allow multiple parties to dial in — including members of the patient's multidisciplinary team, as well as the patient's family who no longer need to take time off to accompany the patient for hospital visits.

The advantages of such video calls are many. Patients are at lower risk of being infected by other diseases. Elderly or frail patients need not arrange for a family member or companion to take them to hospital. They also save time and costs in travelling to and from the hospital.

When COVID-19 broke out last year, the use of teleconsultations increased. For its efforts, SGH was ranked 66 among the World's Best Smart Hospitals 2021 by American weekly news magazine *Newsweek* recently. *Newsweek* also ranked SGH 8th best hospital in the world, and the best in the Asia Pacific, in 2021.



SGH patients can now enquire about or pay their bills, and obtain information on using their MediSave and insurance via the new Patient Financial Services Portal or the Self-Service Lobby located at SGH Block 4 Level 1.

No x-rays for mild cases

Findings from an SGH study change the way COVID-19 patients are managed.

by Thava Rani

Chest x-rays may not be needed for COVID-19 patients with mild or no symptoms, a Singapore General Hospital (SGH) study has found. The findings can help hospitals overwhelmed by the pandemic to zero in on managing COVID-19 patients better.

The study is also significant as it examined a large sample population, comprising younger COVID-19 patients with mild or no symptoms during a relatively early period of the pandemic. The patients were diagnosed with the disease using reverse transcription polymerase chain reaction (RT-PCR) test, a molecular diagnostic test using samples collected from nasal swabs. Not all had undergone chest radiographs or x-rays before the study.

"Most COVID-19 patients do not develop lung infection. Unless they show signs of deterioration, putting everyone through a chest x-ray may not be necessary. Chest x-rays should therefore be reserved for those who display symptoms or have other medical risk factors," said Dr Charles Goh, Consultant, Department of Nuclear Medicine and Molecular Imaging, SGH, and senior author of the publication.

The study was published in peer-reviewed journal *Radiology* in December 2020, less than a year after COVID-19 was diagnosed in Singapore. It supports recommendations issued by international thoracic radiology group Fleischner Society, and further validates the guidelines' application in Asian patients.

According to Dr Benjamin Kuo, Medical Officer, Department of Diagnostic Radiology, Changi General Hospital, "effective use of resources during these unprecedented times is crucial. We believe that our findings will be of help to other countries around the world that are still dealing with large-scale community outbreaks, as the resources required for an

x-ray can perhaps be redirected to other areas with more pressing needs".

Dr Kuo, the paper's lead author, was attached to SGH's Department of Diagnostic Radiology at the time of the study.

In the early days of the pandemic, x-rays and scans were regularly used on people suspected of being infected with the COVID-19 virus. Pneumonia,



one of the symptoms of the disease, can indicate disease severity and complications.

SGH and its sister SingHealth institutions operated a community care facility (CCF) for COVID-19 patients with mild symptoms at the Singapore Expo. This provided an opportunity to collect, analyse and study the data of 5,621 patients admitted to the CCF in May 2020.

The patients, aged between 17 and 60 years, were not expected to see their conditions deteriorate as they were well with mild or no symptoms. The study used various criteria, and only patients aged 36 years and older admitted to the CCF from 3 to 31 May 2020 were included. The final tally was 1,964 patients, all of whom underwent x-ray screening as part of their initial medical assessment.

Of the 1,964, 39 patients (or 2 per cent) had x-rays suggesting lung infections. Seventeen of the 39 were assessed to be at low risk of deteriorating and were discharged from the CCF subsequently. Another 14 were

transferred to hospitals for closer monitoring. The remaining eight were also hospitalised for respiratory symptoms or other abnormalities in their vital signs. One of them needed intensive care, and another was admitted to the high dependency ward. Three needed supplemental oxygen while a fourth received intravenous medication. However, all recovered well.

An overwhelming 1,925 of the 1,964 patients had normal x-rays; 1,899 of the patients remained stable until discharge, while 26 were transferred to hospitals for further treatment.

Of the 3,657 patients excluded from undergoing x-ray on CCF admission, 3,605 remained stable until discharge. Six were sent to hospital later for respiratory symptoms, and just one of them had a lung infection. All six recovered well, and did not need oxygen therapy or intravenous medications.

As the study showed that very few patients with mild or no symptoms needed x-rays, Dr Goh said that "management

of patients can now be directed by their clinical signs and symptoms instead. Healthcare workers in other countries can change practices and be confident about not performing chest radiographs in clinically well patients".

In the early days of the pandemic, chest x-rays and CT scans were used in many parts of the world to diagnose COVID-19. While COVID-19 patients may have abnormalities on either a chest x-ray or CT scan, many other lung problems can cause similar irregularities.

Having signs of infection on an x-ray image will not mean that the patient has COVID-19. Conversely, the absence of an abnormal x-ray does not necessarily exclude COVID-19, as the study has shown.

Still, chest x-rays are useful in determining the treatment plan in older COVID-19 patients, even if they do not show any symptoms. "If the chest x-ray shows signs of infection, it can be assumed that the patient will need more intensive management in a hospital," said Dr Goh.





»»» To test if the N95 mask is worn correctly, Ms Bushra Shaik Ismail sprays a fine mist of bitter-tasting liquid through a small opening of the hood covering the wearer's head. If worn properly, the wearer will not be able to taste it.



She keeps colleagues, patients safe

Ms Bushra Shaik Ismail specialises in preventing the spread of infectious agents.

by Desmond Ng

It used to be a challenge getting her colleagues to pay close attention to infection prevention measures. As hospital staff, they thought that they knew all there was to know about the subject.

But with the COVID-19 pandemic throwing everyone off balance, Singapore General Hospital (SGH) Assistant Nurse Clinician Bushra Shaik Ismail has found it a great opportunity to reinforce the importance of infection control.

"Now everyone is worried about their safety and whenever they are in doubt, they will contact us," said Ms Bushra, who is with SGH's Department of Infection Prevention and Epidemiology.

Her colleagues are also more aware of the role she and her department play in the hospital compared to the past. For one, her department was often confused with the Department of Infectious Diseases, a medical unit comprising infectious diseases specialists.

As an Infection Prevention nurse, Ms Bushra plays a vital role in preventing the transmission of infections, and enhancing hygiene and safety in the hospital. One of her daily tasks is to go through laboratory reports of patients in the wards.

"Patients may have been admitted with existing infections that need closer attention to prevent the spread to other patients," said Ms Bushra. When a patient is found to be infected with highly contagious bacteria, such as methicillin-resistant staphylococcus aureus (MRSA), he may have to transfer out of the ward while staff will need to put on full Personal Protective Equipment (PPE). Bleach solution is used in the area to thoroughly kill MRSA and other bacteria that are highly resistant to many antibiotics.

Like an independent ombudsman of the hospital's services, Ms Bushra inspects the wards and clinics under her care. "If there are any cracks or moulds on the ceiling, we will ask the

Nurse Clinician to get someone to change the ceiling board," she said. In a dialysis centre, moulds or fungi can be harmful to dialysis patients, as they have weakened immune systems.

She also looks into operational procedures like correct cannula insertion and removal to minimise infection risks.

Amid the COVID-19 outbreak, however, a large part of her time has been spent on training colleagues on infection control, including the proper wearing and removal of masks and PPE. The removal process is equally important to avoid transferring germs from the used PPE onto the wearer. "The whole point of donning PPE goes out of the window if removal is not done properly," she said.

Ms Bushra joined SGH in 2008 after completing her nursing diploma at Nanyang Polytechnic. She was posted to the isolation ward, where she provided care and treatment for patients, some of whom suffered from highly contagious diseases, such as human papillomavirus and chickenpox.

A year later, the H1N1 influenza pandemic hit Singapore, infecting some 415,000 people. "Everybody was learning about the precautions needed during the H1N1 outbreak. We were also assisting doctors with the correct wearing of PPE," she said, noting that the hospital's response to H1N1 offered her a glimpse of what to expect and how to react to the next viral outbreak — COVID-19 in 2020.

Ms Bushra spent eight years in the isolation ward before she moved to her present position. Her interest in this field has led her to study part-time at Australia's Griffith University for a postgraduate degree in the subject. "I do not have a specialty certificate in this area, and I want to stay up-to-date and on track with developments," she added.

Infection control is never far from her mind. Even at home, she practises what she preaches at work. "When COVID-19 started, I told my kids to keep a distance when I get home. They were quite upset, but now they know that they have to give me time to wash up first," she said.

While work and study do not leave her with much time for her family, she finds time on weekends to watch films with her two young children. She also relaxes by pampering herself and indulging in beauty rituals, such as applying sheet masks.

One good thing that came out of COVID-19 is that people became more familiar with our roles, and they no longer take for granted hand hygiene practices and the proper use of Personal Protective Equipment.

Bushra Shaik Ismail
Assistant Nurse Clinician, Department of Infection Prevention and Epidemiology, Singapore General Hospital

More than skin deep

Dr Jonah Kua's love of art underpins his work as a plastic surgeon, although he is quick to dispel the notion that his work is only about creating beauty.

by Eveline Gan

A very obese young woman underwent bariatric surgery that resulted in massive weight loss. She was then left with unsightly folds of skin that resulted in recurrent bouts of infection, poor self-esteem and inability to exercise. She then had surgery to trim away the skin folds.

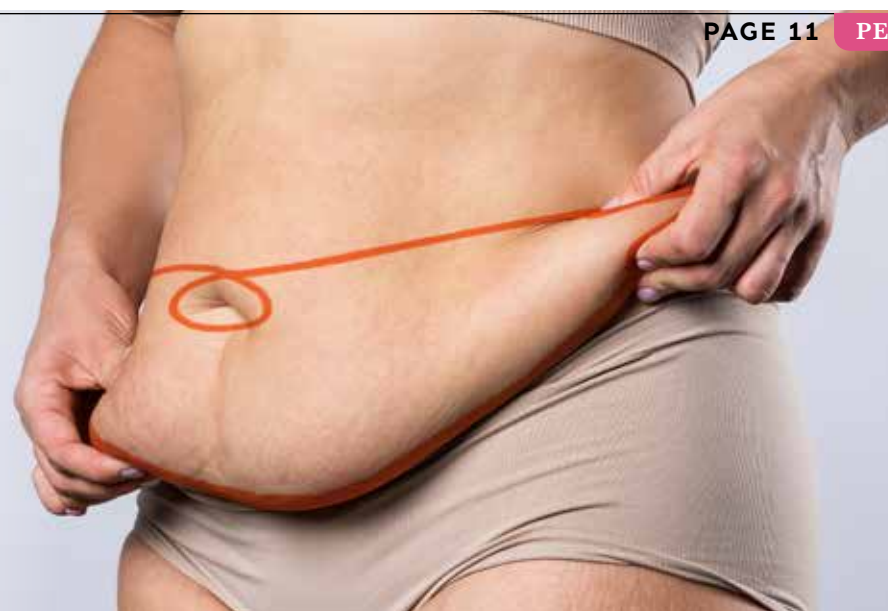
Did she undergo an aesthetics or an essential clinical procedure?

For Dr Jonah Kua, it is a misconception to think that plastic surgery is carried out for the sake of appearance only. It may be argued that undergoing such surgery merely improves "the form, but not function" of the patient, said Dr Kua,

Consultant, Department of Plastic, Reconstructive and Aesthetic Surgery, Singapore General Hospital (SGH).

But for his patient, body contouring surgery boosted her confidence, and she started exercising and eating better. Another patient underwent a mastectomy, or a breast removal for cancer. "The reconstructed breast has no medical function. However, it has been proven to significantly improve the patient's psychosocial and general well-being after cancer, so much so that it is now considered a medical indication," he said.

The roots of modern plastic surgery began as reconstructive surgery, which progressed rapidly



“

I find my work most fulfilling not just when the surgery is successful, but when it changes the patients' lifestyle and they begin to live a more confident life.



Dr Jonah Kua

Consultant, Department of Plastic, Reconstructive and Aesthetic Surgery, Singapore General Hospital

”

after World War I and II. At the time, there was a dramatic increase in facial and head injuries that led to horrific disfigurement in surviving soldiers.

"Many people think that it is all about the aesthetic procedures like Botox and fillers, but those make up just a very small part of the full spectrum of plastic surgery work," he said, adding that the first successful renal transplant in the world was, in fact, performed by a plastic surgeon.

Dr Kua gets satisfaction from seeing his patients regain self-confidence and enjoy a better quality of life after treatment. "I find my work most fulfilling not just when the surgery is successful, but when it changes the patients' lifestyle and they begin to live a more confident life," he said.

Besides mastectomy and post-bariatric patients, he also sees victims of traumatic injuries with physical deformities and scarring, as well as those with more minor conditions like ptosis, or droopy eyelids.

Dr Kua describes plastic surgery as "dynamic", requiring the practitioner to be nimble and inventive. "Plastic surgery is a very unique and specialised branch of surgery, where there are no anatomical boundaries or fixed techniques to carry out the surgery. We are taught to keep

tissue alive and bring it from one area of the body to reconstruct deformities in another part of the body. But how we shape it such that patients get the best form and function really depends on each individual surgeon," he said.

"Every surgery is different and no two deformities are the same. This means I have to analyse every patient's pre-operative scans and come up with a surgical plan. It is challenging and that is what keeps me on my toes. There is no 'typical' day."

Dr Kua was drawn to the discipline perhaps because of his love of art. As a child, he loved drawing and took part in numerous art competitions in school, although these days, he puts his artistic flair and keen eye for art into his work.

Formerly at Changi General Hospital, Dr Kua moved full-time to SGH when he assumed the role of Programme Director of the Singapore Integrated Programme for Plastic Surgery.

Dr Kua's appreciation for beauty and passion for a healthy challenge extend to his hobbies. The father of two is an orchid enthusiast who looks after more than 200 of these blooms. Notoriously difficult to grow, the delicate beauties have blossomed under his meticulous care.



Dr Jonah Kua is performing a procedure known as orbital floor reconstruction for a patient with a facial fracture.

Breast cancer awareness

Breast cancer is the number one cancer affecting Singaporean women. Every October, Breast Cancer Awareness Month is held to raise awareness, promote early detection, and provide support to patients.

Information provided by **National Cancer Centre Singapore**

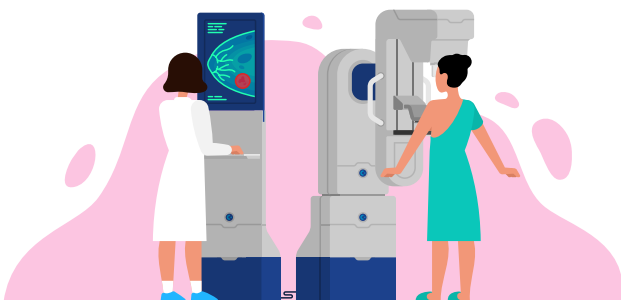
Breast cancer in numbers

Based on data from Singapore Cancer Registry Annual Report 2018 (released in March 2021):

- Most common cancer among females in Singapore
- Top cause of cancer deaths in females
- In 2014-2018, 11,232 new cases of breast cancer were diagnosed; and breast cancer was the cause of death in 2,196 women

Warning signs

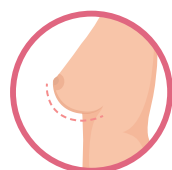
Breast cancer is usually painless and may have no symptoms during the early stages. A mammogram to screen for early-stage breast cancer has been shown to save lives. If you are above 40 years old, do consider having a mammogram, even if you do not experience any symptoms.



Consult your doctor if you notice these symptoms:



- A lump or thickening in the breast



- A change in size or shape of the breast



- A change in colour or appearance of the breast skin, such as redness, puckering or dimpling



- Bloody discharge from the nipple



- Persistent rash on the nipple and/or areola



- A recently retracted or inverted nipple

Getting treated

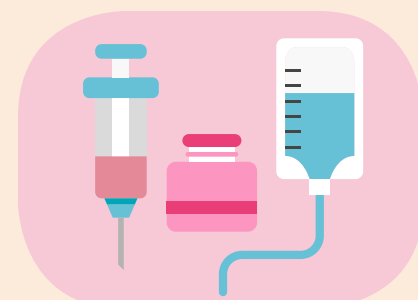
Treatment methods depend on various factors, such as the stage of the cancer, the patient's general health, and personal preference.



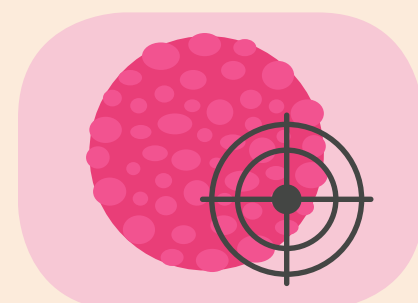
- ▶ **Surgery (such as lumpectomy, mastectomy, reconstructive surgery):** The breast may not necessarily need to be removed. The type of surgical treatment depends on the stage of the cancer, size of the tumour in relation to the breast size, and whether breast preservation is desired.



- ▶ **Radiation therapy:** Use of high-energy rays to kill cancer cells.



- ▶ **Chemotherapy:** Anti-cancer drugs that kill cancer cells.



- ▶ **Targeted therapy:** Antibodies or small molecules bind to specific sites on cancer cells in order to prevent cell growth and division.



- ▶ **Hormonal therapy:** Drugs that reduce the effect of female hormones on cancers that are sensitive to hormones.

Play a part

• Women vs Cancer

The Women vs Cancer campaign was launched by the National Cancer Centre Singapore (NCCS) to raise awareness and funds for patient care programmes, education, and vital research into women-related cancers. Donations will go towards supporting women to identify risks and helping them get the treatment they need. Visit

www.giving.sg/nccs-cancer-fund/wvccf for more information.

• NCCS Breast Cancer Support Group

This support group is open to patients diagnosed with stage 0 to 3A breast cancer, and aims to address the common concerns and issues faced by these individuals.

**WOMEN
CANCER**





» Acupuncture aims to bring the body back into a state of equilibrium and trigger the body's natural healing response, says Acupuncturist Jeraldine Seah.

Sticking needles into my pain

A key component of traditional Chinese medicine, acupuncture can also be an effective treatment for chronic pain.

by Desmond Ng

Inserting needles into areas of pain to ease pain may sound like a contradiction. Yet, acupuncture can — and does — help.

To many, acupuncture is largely hocus-pocus. Unlike Western medicine, it is not always supported by hard scientific evidence. But this ancient Chinese practice has its fans.

"We do see patients with severe pain where even with medication, they are unable to control their pain well," said Ms Jeraldine Seah, Senior Acupuncturist, Division of Anaesthesiology and Perioperative Medicine, Singapore General Hospital (SGH).

"Acupuncture helps improve quality of life because chronic pain can affect their mood and also their sleep."

A key component of traditional Chinese medicine (TCM), acupuncture addresses the body's so-called imbalances. TCM believes that the body's vital energy, or *qi*, courses through channels in the body known as meridians, which are connected to the organs and their functions. When the *qi* is blocked, it upsets

the body's functions, and needs to be re-balanced.

Ms Seah said that during acupuncture treatment, needles are inserted into specific areas of the body known as acupoints. Single-use, pre-sterilised needles are used. "The needles are manipulated manually or by using electrical stimulation to re-establish the free flow of *qi* to restore balance, regulate *yin* and *yang*, and trigger the body's natural healing response," she added.

"When there is an imbalance in *yin* and *yang*, it will result in illness. Acupuncture helps bring the body back into equilibrium, balancing the *yin* and *yang* in the body," said Ms Seah, who is also a licensed TCM physician.

Acupuncture, a referral service, has been offered as an alternative treatment at SGH's Pain Management Centre since 1998. Demand has been rising steadily by around 10 per cent every year. The Centre's two acupuncturists see about 7,000 cases each year, 60 to 70 per cent of which are for relieving pain of the lower back, neck and shoulder. About two-thirds of patients are elderly Chinese, although the Centre has started seeing more younger people seek acupuncture treatment.

The growing interest comes amid the Government's efforts to develop the TCM industry. "Younger people are more open and informed about this treatment. They also seek more

natural and holistic treatments," said Ms Seah.

Besides easing pain, acupuncture can also be used to help other conditions, such as stroke, insomnia, anxiety, gastrointestinal problems, as well as the side effects of cancer treatment like fatigue, nausea and insomnia.

Patients typically undergo five acupuncture sessions to find out how well they respond to the treatment. "If after five to 10 times, they do not experience any relief or change in their symptoms, we will ask them to return to their medical specialists to seek other treatment modalities," said Ms Seah.

A treatment plan usually involves one or two sessions a week of about 25 minutes each time. The number of treatments depends on the condition being treated. For chronic or complex conditions, a longer treatment period of up to three months may be required.

In some cases, a doctor may prescribe medication and acupuncture treatment concurrently for a patient. If acupuncture is found to be of help to the patient, his medication may be reduced.

Acupuncture treatments are generally safe, with very few side effects. Occasionally some patients experience mild bleeding when the needles are removed, said Ms Seah. There is some discomfort when the needles are inserted, but patients do not usually feel pain as the needles used are very fine.

Defusing a ticking time bomb

A brain aneurysm often causes no problem, but can be life-threatening, if it ruptures.

by Desmond Ng



» Dr Wickly Lee (right) at the Endovascular Centre in the NNI@ TTSH Campus.



» When a brain aneurysm ruptures, there is a 30 to 40 per cent probability of immediate death, and follow-up treatment is highly recommended to prevent a second rupture, says Dr Vincent Ng.

In July 2020, Grant Imahara, host of popular TV series *MythBusters*, suffered a brain aneurysm that led to his death. A brain or cerebral aneurysm refers to a bulge or ballooning in an artery in the brain. Some of us may be walking around with a brain aneurysm without realising it.

"It is estimated that three out of 100 people may be harbouring such aneurysms, and they are often only discovered when brain scans are done for other reasons," said Dr Wickly Lee, Senior Consultant, Department of Neuroradiology, National Neuroscience Institute (NNI).

When discovered incidentally, most aneurysms are small (less than 5mm). They are unlikely to cause symptoms but they still require follow-up and surveillance to ensure the aneurysm has no other sinister features that increase the risk of rupture, said Dr Lee.

However, approximately 10 of 3,000 aneurysms do rupture and require emergency treatment, as the resulting bleeding in the brain can be fatal.

Assessing risks

Brain aneurysms can occur in anyone and at any age, but are more common in people aged 40 to 60 years old, according to Dr Vincent Ng, Senior Consultant, Department of Neurosurgery, NNI. Known risk factors include

smoking, high blood pressure, and a family history of aneurysm.

Some patients with genetic disorders that cause weakening of the blood vessel walls or have other health conditions, such as polycystic kidney disease, may have a predisposition to the formation of aneurysm, said Dr Ng.

Diagnosis is done via a Magnetic Resonance Imaging (MRI) scan or a Computerised Tomography (CT) scan. However, making the decision to treat an unruptured aneurysm can be complex.

"All brain procedures carry a risk of serious complications, therefore we need to carefully weigh this against the risk of an aneurysm rupturing," said Dr Ng. "We will assess the patient's risk factors and look at the size and shape of the aneurysm — the more irregular it is, the more likely it will rupture."

Clinicians also consider the patient's age, blood pressure, location of the aneurysm, and its growth over time.

As a large majority of aneurysms are small, doctors prefer to take a conservative approach, and monitor the size and shape of the aneurysm annually with MRI or CT scans.

"If follow-up scans show that the size or shape of the aneurysm has changed, or if the patient presents initially with a 5mm or larger aneurysm, we will recommend treatment," said Dr Lee.

Presence of symptoms

Symptoms typically do not occur unless an aneurysm is large or ruptures. One of the most obvious signs is intense headache, which is often described as the "worst headache of your life". This may be accompanied by nausea, vomiting, and sensitivity to light.

The trigger for ruptured aneurysms is possibly associated with stressful activity or vigorous exercises, such as gym workouts or heavyweight lifting, said Dr Ng.

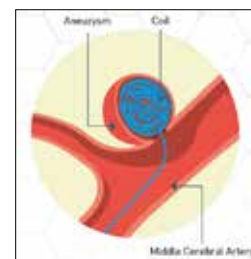
"But sometimes the patients could also be doing something

very innocuous and the aneurysm just ruptures," he added.

A ruptured aneurysm is a medical emergency and requires urgent treatment. There are two ways this can be done:

• Endovascular embolisation

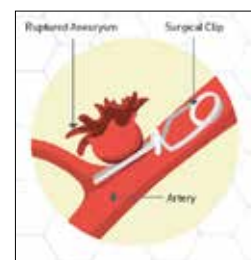
This is a minimally invasive procedure performed under image guidance.



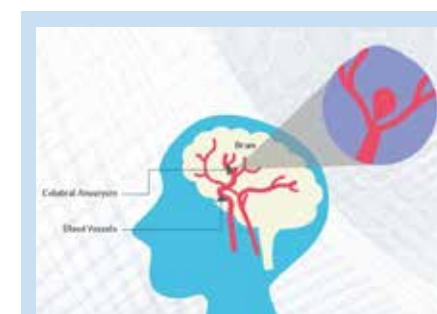
Treatment of the aneurysm is performed from "within" the artery through a thin catheter, which is inserted via a groin artery and carefully navigated to the brain aneurysm. Materials such as tiny coils or mesh stents can then be deployed to promote clotting of the aneurysm.

• Surgical clipping

This requires open brain surgery to place a small metal clip around the aneurysm neck, preventing blood from entering it.

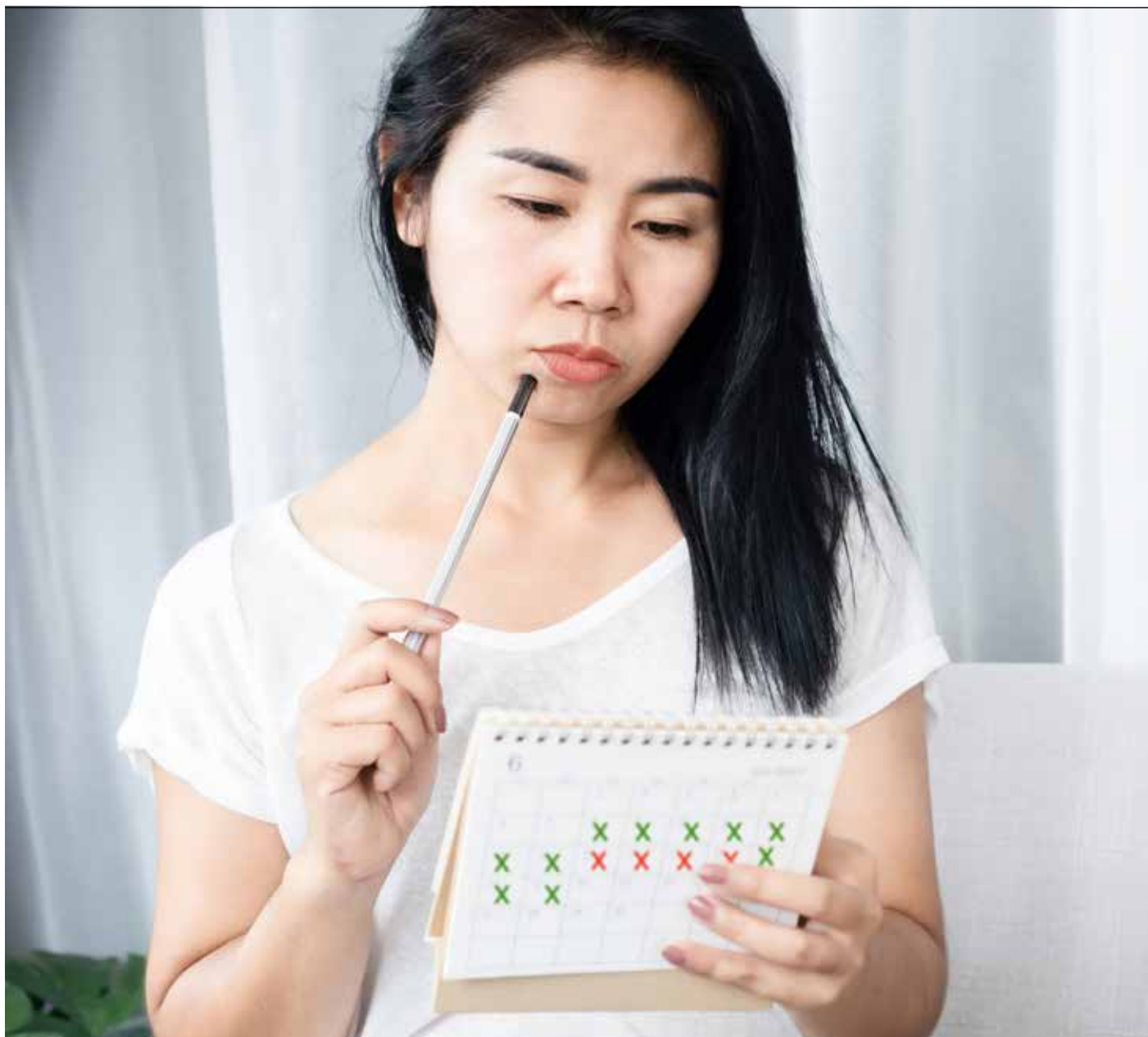


"When a rupture happens, there is a 30 to 40 per cent probability of immediate death, and the situation becomes significantly more acute. Follow-up treatments are highly recommended, as an aneurysm can rupture again within a short time. The second occurrence carries a higher death rate of 70 per cent," said Dr Ng.



Technological aid

Traditionally applied in fields like aerodynamics and weather simulation, an engineering tool called Computational Fluid Dynamics (CFD) uses data to analyse problems that involves fluid flows. This tool is being adapted in the medical field to predict the risk of brain aneurysm rupture using parameters such as arterial blood flow pattern, wall shear stress, and vorticity (rate of fluid rotation). It is still in the research stage, but it is hoped that this technology can provide additional data to help clinicians like Dr Ng and Dr Lee assess the likelihood of a brain aneurysm rupturing in the future.



Running out of eggs

Baby girls are usually born with enough eggs to last them till menopause. What happens if the supply is exhausted early?

by Thava Rani

Menopause can start early, even for young women in their 20s.

When women experience premature menopause symptoms — irregular periods, stoppage of ovulation, and absence of menstruation — it is usually because they have undergone treatment for cancer or other serious illness. For some, primary ovarian insufficiency occurs because of family or genetic causes.

About one per cent of women under 40 years of age suffer from this condition, according to Dr Serene Lim, Consultant, Department of Obstetrics and Gynaecology, Singapore General Hospital (SGH).

“Essentially, in premature ovarian insufficiency, the ovaries stop functioning normally before the age of 40, usually because they have run out of eggs,” Dr Lim said.

Women’s ovaries house small sacs called follicles, which contain

eggs and hormone-producing cells. Women are born with numerous ‘seeds’ that turn into follicles, from which eggs are released during ovulation. Typically, there are enough follicles to last till menopause, which occurs in most women in their early 50s.

In premature ovarian insufficiency, the follicles become depleted prematurely. “When that happens, the ovaries stop releasing eggs or release them only intermittently. They also stop producing important hormones or produce them only intermittently,” said Dr Lim.

Women may experience symptoms similar to menopause, such as irregular or no periods, hot flushes, night sweats, insomnia, mood swings, irritability, vaginal dryness, and reduced libido.

The earliest symptom is likely to be a change in their periods. Women who track their menstrual cycles regularly will notice a shorter cycle length — 24 to 25 days between periods instead of the usual 28 to 30 days. “This

is a sign that the body is trying to compensate for the ovaries running out of eggs by stimulating ovulation. Eventually the periods will stop altogether as there is no more ovulation,” Dr Lim said.

Women who are at risk and want children are advised to try and get pregnant before their eggs are depleted. Those who are not ready to start a family may be offered fertility preservation procedures, where the woman’s eggs, embryos or ovarian tissues are frozen for future use.

Premature ovarian insufficiency cannot be reversed, and can lead to an absence of important hormones, such as oestrogen and progesterone, which in turn can lead to other complications. “These hormones have a protective effect on the bones and heart. As time goes by, the lack of such hormones can result in bone loss, osteoporosis or heart disease if nothing is done about it,” Dr Lim said.

That is why hormone replacement therapy is usually started when the condition is diagnosed and continued until the average age of menopause.

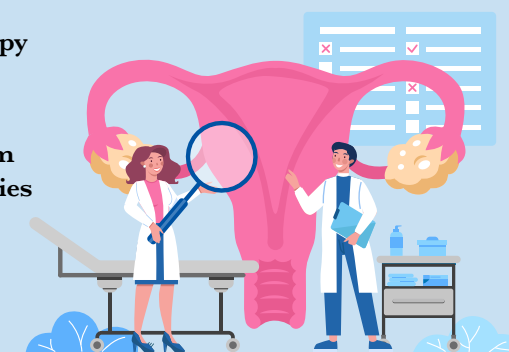
While premature ovarian insufficiency cannot be prevented, especially if it is due to genetics, lifestyle changes like stopping smoking can help slow down the decline in eggs for women who are at risk. Being vaccinated against mumps and practising safe sex to avoid sexually transmitted infections can help prevent ovarian damage, which in turn lowers the risk for the condition.

“There is still a small chance of pregnancy for these women as intermittent ovarian activity may occur, leading to spontaneous ovulation and conception. But most women would need donor eggs to conceive while others may choose to adopt,” said Dr Lim.

Chromosomes and infections

Most of the time, the cause of premature ovarian insufficiency is unknown. Known causes include:

- **Genetic conditions**
 - Turner syndrome (most common genetic cause where the woman only has one X chromosome)
 - Fragile X syndrome (mutation on the X chromosome)
- **Infections that damage the ovaries, such as mumps (rare in Singapore as most people are vaccinated against it)**
- **Surgery of the ovaries**
- **Toxins, such as chemotherapy and radiotherapy**
- **Autoimmune conditions in which the immune system mistakenly attacks the ovaries and other hormone-producing organs, such as the adrenal glands and thyroid glands**



Assam Laksa

(5 servings)

by Dr Ong Peck Leong

Emeritus Consultant, Department of
Neurosurgery, National Neuroscience Institute



Preparation

time: **2 hours**
30 minutes



Cooking

time: **2 hours**

Ingredients

- 500g fresh selar/mackerel/kembong fish, gutted and descaled
- 500g whole-grain *beehoon* (dried rice noodles), soaked in boiling water for 15min and strained

FOR SAMBAL CHILLI PASTE

- 150g dried red chillies, soaked overnight until soft
- 50g fresh red chillies
- 180g peeled shallots
- 3 sticks *serai* (lemongrass), use white portions only
- 3 *buah keras* (candlenuts)
- 50g galangal (*lengkuas* or "blue ginger")
- 30g *belacan* (shrimp paste)
- 50g fresh turmeric

FOR BROTH

- 300g tamarind paste
- 5 tbsp sambal chilli paste (as above)
- 150g laksa leaves (*daun kesum* or Vietnamese coriander)
- 2 litres water
- 1 tbsp sugar, to taste
- 1 tbsp salt, to taste

FOR GARNISH

- 100g shrimp paste, mixed well with 50ml hot water
- 100g mint leaves
- 1 red onion, sliced thinly into 5cm strips
- 1 bulb torch ginger flower, thinly sliced
- 1 cucumber, sliced thinly into 5cm strips
- 4 chillies, de-seeded and sliced diagonally
- 1 pineapple, cut into 1cm cubes
- 2 candlenuts
- 100ml water

Method

FOR SAMBAL CHILLI PASTE

1. Blend the above with a small amount of water until smooth.
2. Heat wok with 2 tablespoons of oil.
3. Cook sambal chilli paste at low heat until fragrant and until chilli oil comes to the surface. Salt to taste.
4. Set aside to cool.

FOR BROTH

1. Put tamarind paste into a large bowl, add 300ml of water, and use hands to extract tamarind juice from the seeds. Sieve before using.
2. Heat 2 litres of water in a large pot, add 5 tablespoons of the prepared sambal chilli paste, half of the tamarind juice, laksa leaves, and boil for 10 min.
3. Add selar fish and boil for another 15 min.
4. Remove fish to cool on plate.
5. Remove laksa leaves from pot. Stir in the salt and sugar.
6. Gradually adjust the tartness of the soup by adding tablespoons of tamarind juice if necessary. Continue to simmer the soup.
7. Debone fish and break fish meat into small chunks.



Adapted from *One Heart One Mind*, an exclusive publication by National Neuroscience Institute, which features recipes from celebrity chefs and home cooks. Email corpdev@nni.com.sg to find out how to get a copy!



»» Examples of intrinsic staining (left) and extrinsic staining (right) of the teeth.

also contain lots of vitamin C that may help strengthen the gums.

What causes your teeth to stain?

Extrinsic staining occurs on the surface and is mainly due to food consumption habits or smoking. This can be caused by frequent drinking of coffee, tea or wine. Intrinsic stains are those that affect the inner layer of the teeth, and may be due to a genetic condition or caused by certain medication. It is also associated with ageing — when the enamel thins with age, teeth can turn yellow.

Does drinking these beverages with a straw prevent staining?

There is limited evidence to suggest that drinking with a straw helps prevent extrinsic staining. The key is to prevent the colouring from having prolonged contact with your teeth. Rinse your mouth with water immediately after drinking coffee or tea so that the stains do not form. You should also consume these beverages in moderation.

Are hard foods bad for your teeth?

We do see a trend of patients consuming hard foods, such as nuts and apples, having a higher risk of tooth fracture. If you have a habit of biting into even harder foods like bones and sugar cane, your teeth will be more prone to cracks and chips.

Does consuming alcohol affect one's dental health?

Prolonged consumption of alcohol wears down the enamel. There is also a large body of evidence to show that alcohol consumption is a major risk factor for oral cancer. Alcohol use may also affect the psychological health of patients, putting them at greater risk of dental trauma, such as when they fall or get into accidents.

What kind of food can help keep teeth and gums clean?

Ideally, one should take fibrous food and vegetables, and food that is low in sugar content. Consume soft drinks and citrus foods in moderation. To keep teeth and gums healthy, it is also important to ensure good maintenance, such as regular brushing and interdental cleaning, as well as frequent visits to the dentist.

Debunking myths about food and dental health

Here are some helpful tips on healthy eating to protect your dental health.

by Desmond Ng

We know that poor oral hygiene can lead to gum diseases and dental cavities, but did you know that the food you choose and how often you eat them also have a significant impact on your teeth and oral health?

Dr Amelia Anya Chew Qin'an, Associate Consultant, Department of Restorative Dentistry, Prosthodontic Unit, National Dental Centre Singapore (NDCS), sheds light on the relationship between food and the health of your teeth.

How do acidic drinks like carbonated beverages and lemon-infused water affect our teeth?

Erosion happens when the acid from the lemon and carbonated drinks come into contact with the enamel, which is the outer surface of the teeth. Once the enamel is eroded, the surface can get worn down. When these drinks are consumed excessively, the underlying structure gets exposed and that can lead to problems such as tooth decay. Sugar content in soft drinks can also cause tooth decay and cavities.

Does this mean we should avoid carbonated drinks?

We advise patients to drink carbonated beverages in moderation or to avoid drinking over long periods, such as sipping it throughout the day. Rinsing your mouth after consuming these drinks can help wash away any remaining sugars and acid content, preventing further erosion of the enamel.

Similarly, if you consume citrus fruits like oranges and lemons, gargle first to remove the acid content before brushing your teeth. Brushing your teeth immediately after consuming these fruits and drinks is not advisable as this will smear the acid content all over your teeth and can cause quicker deterioration. It is best to wait at least 30 minutes to one hour before brushing.

Is sugar really bad for your teeth?

Sugar has a direct correlation with tooth decay. When you consume food that contains sugar, these sugar molecules combine with the saliva and bacteria present in the mouth to form plaque on the teeth. Left on the teeth, plaque can demineralise the enamel (essential minerals removed from the hard, protective layer of tooth enamel), which can lead to cavities and tooth decay.

Does eating more fruits and vegetables improve dental health?

Fruits and vegetables, especially those that are fibrous, can help clean plaque from the teeth. Many fruits and vegetables



»» Dr Amelia Anya Chew Qin'an sheds light on some common questions on the relationship between our diet and dental health.



Keen to prepare meals that are good for your dental health? Check out interesting recipes suitable for dental patients in a newly launched recipe book *Meals to Smile About* by NDCS. All book sale proceeds go towards fundraising for the NDCS's Tooth Fairy Fund, which provides treatment funding for underprivileged patients requiring dental care. Visit www.ndcs.com.sg to find out more.

Q&A

HealthXchange.sg

Getting rid of gallstones



I am 39 years old. I have had several gallstone attacks in the last year, one of which landed me at the Emergency Department. Scans showed that I had multiple gallstones. I was advised to undergo surgery to remove my gallbladder but I am reluctant to do so. I have stopped taking fatty meats, curries and other oily foods. Will it be safe for me to continue with this diet and keep my gallbladder?

You have what is known as biliary colic, which can occur when you eat heavy meals and they stimulate the gallbladder. Although your lifestyle change has alleviated your symptoms, it can recur when the gallbladder is stimulated during the digestive process. It may not occur as frequently or as severely.

The occurrence of a repeated attack of biliary colic, or worse, other gallstone-related complications, such as cholecystitis (inflammation of the gallbladder), pancreatitis (inflammation of the pancreas) or cholangitis (inflammation of the bile duct), is more likely in patients who have suffered episodes of biliary colic.

A cholecystectomy, or surgical removal of the gallbladder, is still recommended for relatively fit middle-aged adults. It is usually performed using minimally invasive methods, such as laparoscopy or keyhole surgery. Patients can expect to be warded for one night for observation or even be discharged the same day, depending on the condition of each patient.

Although cholecystectomy is one of the most commonly performed elective procedures, it is important for patients to discuss the risks associated with the procedure with their surgeon in greater detail before making a decision.

DR LOH WEI-LIANG

Associate Consultant, Department of Hepato-pancreato-biliary and Transplant Surgery, Singapore General Hospital



Are there supplements for tired eyes?



My eyes feel tired after a long day. At times, I also experience pain and occasionally see flashes of light. Is there pressure building up in my eye that is affecting the retina? If so, what are the symptoms and are there supplements that I can take to improve my condition?

It is very common for our eyes to feel tired after a long day, particularly if we have been looking at the computer screen extensively. This is due to eyestrain and dryness in the eyes.

Dry eyes occur after you have been reading or looking at your work at a close distance for a prolonged period of time, and may have forgotten to blink while concentrating on those tasks. This can cause discomfort, eye redness, and a sense of pressure in the eyes. It can be resolved by using lubricating eye drops regularly.

If you see flashes of light, it may be due to degeneration of the vitreous jelly in the back of your eyeball. This degeneration is normal as we grow older, and is not associated with elevated pressure in the eyeball. However, it is advisable to go for an eye examination. Oral supplements are usually not necessary for eye health, if you have a balanced diet.

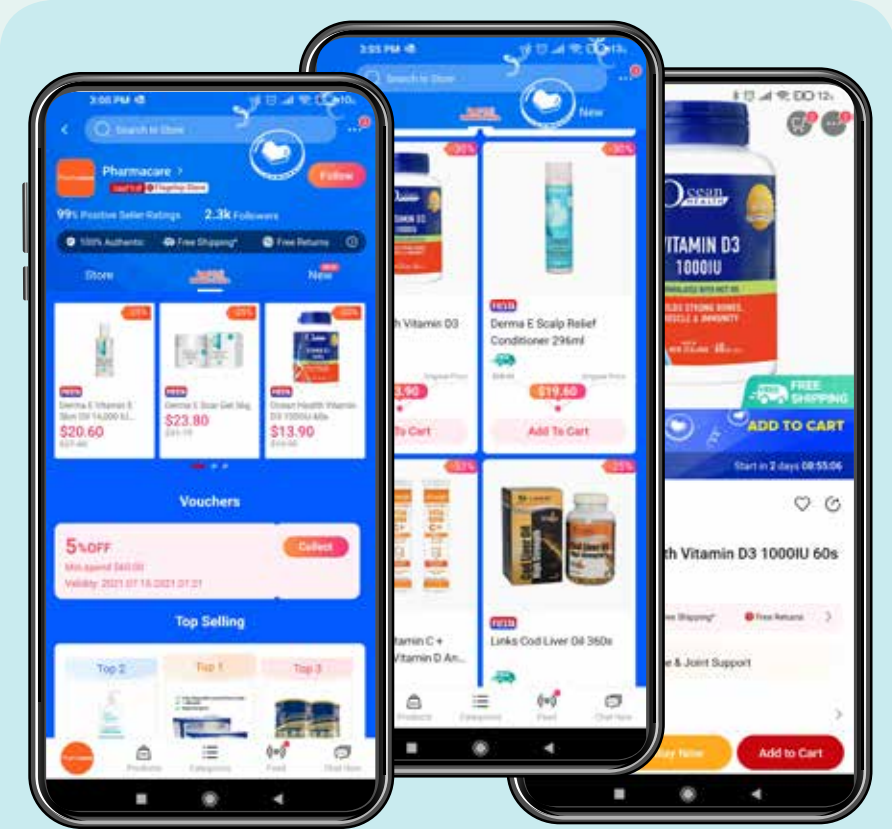
DR CHAN CHOI MUN

Senior Consultant, Medical Retina Department, Singapore National Eye Centre

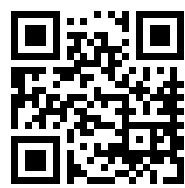
DID YOU KNOW...

... **that** you can now purchase your supplements and vitamins online at SingHealth's Pharmacare Flagship Store on LazMall, Lazada's e-commerce platform?

Shop for items including surgical face masks, moisturising lotions, medications and more, and have them delivered to your home!



Visit www.lazada.sg/shop/pharmacare or scan the QR code to check out the latest promotions.



... **that** patients who are seen at Singapore General Hospital's (SGH) Department of Emergency Medicine (DEM) pay a minimum fee of \$128, which includes consultation, nursing care, basic investigations (urine, blood, electrocardiogram, x-ray), treatment (wound dressing, simple suturing, plaster cast), and standard medications.

The basic blood test screens for the patient's renal function, full blood count, clotting factors, and heart-related issues.

Additional tests may be ordered, following the doctor's assessment of the patient's symptoms. These include computer tomography (CT) and magnetic resonance imaging (MRI) scans, which can be costly and may require a senior doctor's confirmation that one is needed. For instance, a CT scan may be needed to confirm a diagnosis if the x-ray was not able to clearly detect symptoms of conditions such as stroke and transient ischaemic attack (TIA or mini stroke).

Medications that are on a standard list are included in the basic fee, but additional medications will incur extra charges.

Patients who choose to leave the DEM after undergoing the tests but before seeing the doctor will be charged for at least the tests, and possibly the full DEM fee.

For more information, go to www.sgh.com.sg/patient-care/visiting-specialist/emergency-care-singapore-general-hospital.

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GLUCOSAMINE: Not effective or not the right BRAND of glucosamine?

Before buying a glucosamine brand,
ask yourself these questions:

1. How many clinical studies have proven that the brand works for painful joint conditions?
2. How many clinical studies have shown that the brand does not work?
3. How many long term, large-scale studies were conducted using the brand to prove its safety for long-term use?

For Viartil-S:

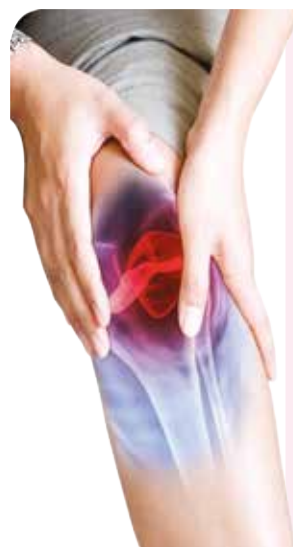
1. There are more than **100** clinical studies and all the studies have proven that Viartil-S works for painful joint condition.
2. No clinical studies have shown that Viartil-S does not work.
3. There are long-term studies using Viartil-S involving over 7000 patients proving its safety for long-term use. These include one 2-year, one 2.5-year & two 3-year studies with an 8-year follow-up study which has also shown that **Viartil-S reduces the risk of Total Knee Replacement surgery by 57%.**

What about the glucosamine brand that you are taking?

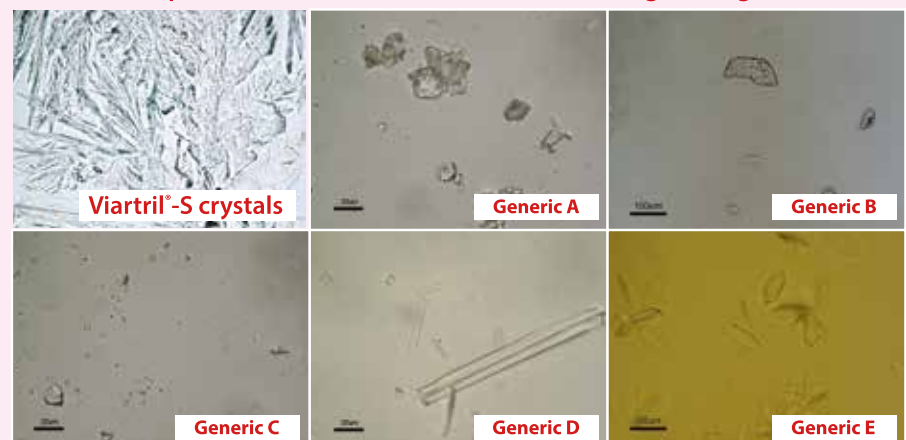


The Patented Prescription-Grade Crystalline Glucosamine Sulphate for Joint Health^{1,2}

In Singapore, glucosamine products are sold to public without the need for registration & approval by HSA. This means that even simple checks on purity are not required. So, the safety and efficacy of a brand can only be confirmed by lab & clinical studies.



The microscopic structure of Viartil-S is different from generic glucosamine:



1. Dario Gregori et al. JAMA. 2018;320(24):2564-2579 2. Olivier Bruyère et al. Seminars in Arthritis and Rheumatism 44(2014) 253-263 3. Bruyère O, Altman RD, Reginster JY. Semin Arthritis Rheum. 2016 Feb;45(4 Suppl):S12-7.



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